

SUBSTITUTE ABSTRACT

A heat-insulating material has a melting point above 2500°C, a thermal expansion coefficient in excess of $8 \times 10^{-6} \text{ K}^{-1}$, and a sintering temperature greater than 1400°C. It has a perovskite structure of the general formula $A_{1+x}(B'_{1/3+x}B''_{2/3+y})O_{3+z}$ where

A = at least one element of the group (Ba, Sr, Ca, Be),

B' = at least one element of the group (Mg, Ca, Sr, Ba, Be),

B'' = at least one element of the group (Ta, Nb),

r, x, and z \neq 0, and

$-0.1 < r, x, y, z < 0.1$;

or of the general formula $A_{1+x}(B'_{1/2+x}B''_{1/2+y})O_{3+z}$ where A and B'' are as above and

B' = at least one element of the group (Al, La, Nd, Gd, Er, Lu, Dy, Tb), and

$-0.1 < r, x, y, z < 0.1$.